

CLAIMS

1. An exhaust gas treatment device, in particular for an internal combustion engine, preferably in a motor vehicle,
 - comprising a housing (2) and a substrate body (3) which is situated in the housing (2) and through which exhaust gases can flow in an axial direction (5),
 - whereby the substrate body (3) is supported axially by an axial bearing (8) on the housing (2) on at least one axial end face (11),
 - whereby the axial bearing (8) has a supporting ring (10), which is fixedly mounted on the housing and has a U-shaped profile (12), which is open axially toward the end face (11) of the substrate body (3),
 - whereby the axial bearing (8) has a bearing ring (17) of a bearing material which engages in the U-shaped profile (12) of the supporting ring (10) on its axial end facing away from the substrate body (3) and is supported axially thereon and which is supported on the end face (11) of the substrate body (3) with its axial end facing the substrate body (3).
2. The exhaust gas treatment device according to Claim 1,

characterized in that

the bearing ring (17) is designed as a knit or a wire knit or a knit cushion or a wire knit cushion.

3. The exhaust gas treatment device according to Claim 1 or 2,

characterized in that

the bearing ring (17) supports the substrate body (3) axially on an edge section (18) which is on the outside radially of the axial end face (11).

4. The exhaust gas treatment device according to one of Claims 1 through 3,

characterized in that

- an outside cross section (19) of the bearing ring (17) is equal to or greater than an outside cross section (16) of the substrate body (3) on its end face (11),
- an inside cross section (20) of the bearing ring (17) is smaller than the outside cross section (16) of the substrate body (3) on its end face (11).

5. The exhaust gas treatment device according to one of Claims 1 through 4,

characterized in that

an outside leg (13) which is on the outside radially of the U-shaped profile (12) of the supporting ring (10) has on its inside radially an inside cross section (15) which is equal to or greater than an outside cross section (16) of the substrate body (3) on its end face (11).

6. The exhaust gas treatment device according to one of

Claims 1 through 5,

characterized in that

the supporting ring (17) is at a distance axially from the end face (11) of the substrate body (3) facing it.

7. The exhaust gas treatment device according to one of Claims 1 through 6,

characterized in that

an inside leg (14), which is on the inside radially of the U-shaped profile (12) of the supporting ring (10), is shorter axially than an outside leg (13) which is on the outside radially of the U-shaped profile (12) of the supporting ring (10).

8. The exhaust gas treatment device according to one of Claims 1 through 7,

characterized in that

the supporting ring (10) is designed as a separate component, which is fastened to the housing (2).

9. The exhaust gas treatment device according to Claim 8,

characterized in that

the supporting ring (10) has an interruption (21) in the circumferential direction.

10. The exhaust gas treatment device according to one of Claims 1 through 9,

characterized in that

- the supporting ring (10) is fastened to an axial bottom (6) of the housing (2),
- the bottom (6) is fastened to a jacket (4) of the housing (2).

11. The exhaust gas treatment device according to one of Claims 1 through 10,

characterized in that

- the substrate body (3) is supported radially on the housing (2) by a radial bearing (7) along its circumference,
- the radial bearing (7) has a bearing mat (9) made of bearing material surrounding the substrate body (3) on the outside radially,
- the bearing ring (17) and the bearing mat (9) are separate components.

12. The exhaust gas treatment device according to Claim 11,

characterized in that

the bearing ring (17) and bearing mat (9) are spaced a distance apart from one another axially.

13. The exhaust gas treatment device according to one of Claims 1 through 12,

characterized in that

the substrate body (3) is supported axially on the

housing (2) via the axial bearing (8) at least on its axial end face (11) on the outflow side.

14. The exhaust gas treatment device according to one of Claims 1 through 13,

characterized in that

the bearing ring (17) has a profile whose extent in the axial direction is greater than or approximately twice as large as its extent in the radial direction.

15. The exhaust gas treatment device according to one of Claims 1 through 14,

characterized in that

the dimensions of the supporting ring (10) and the bearing ring (17) are coordinated so that two legs (13, 14) of the U-shaped profile (12) of the supporting ring (10) support the bearing ring (17) on the outside radially and on the inside radially.

16. The exhaust gas treatment device according to one of Claims 1 through 15,

characterized in that

the bearing ring (17) is designed as a spring having a predetermined characteristic.

17. The exhaust gas treatment device according to one of Claims 1 through 16,

characterized in that

the bearing ring (17) is installed with an axial

prestress.

18. The exhaust gas treatment device according to Claim 17,

characterized in that

the prestress is selected so that there is a residual axial stress even during operation of the exhaust gas treatment device (1).

19. The exhaust gas treatment device according to one of Claims 1 through 18,

characterized in that

the exhaust gas treatment device (1) is a particulate filter or a soot filter or a catalytic converter.